

## a) CA

**Titel** Hygienic wiper containing silver inorganic microbicides, 5 pp.  
**Erf.** Nakamura, Kenji  
**Anm.** Nakamura Kenji, Japan  
**Patent** JP 08196461 A2 19960806 JP 1995-27390 19950123  
**Abstr.** A hygienic wiper like wet tissue, cleaning paper, and hand wiper, contains 0.05-5 % by wt. silver inorg. microbicide in water contg. dispersing agent such as sol. chitosan and collagen, and a stabilizing agent (colloid), a surfactant, and ethylene glycol.  
**IC** ICM A47K007-00 ICS A47K007-00; A01N059-16; A47L013-17; A61L002-16  
**Index** Zeolites (silver complexes)

## b) WPI

**Titel** Antibacterial wiper with long-lasting effect - has base material uniformly contg dispersion liq contg silver inorganic antibacterial agent.  
**Anm** NAKAMURA K  
**Patent** JP 08196461 A 19960806 (199641)\* 5p A47K007-00  
**Prior.** JP 1995-27390 19950123  
**IC** ICM A47K007-00 ICS A01N059-16; A47L013-17; A61L002-16  
**Abstr** Wiper has base material uniformly contg. a dispersion liq. Silver inorganic antibacterial agent is stably dispersed in an amount of 0.05-5 wt. %. A soluble chitosan/collagen is pref. used as a dispersion stabiliser. The soluble chitosan/collagen is pref. obtained by modifying chitosan and collagen with a fatty acid. Another dispersion stabiliser is pref. a blended soln. contg. a protective colloid in 0.05 wt % or more, a surfactant in 0.05 wt % or more and ethylene glycol in 0.1 wt. % or more.  
**USE/ADVANTAGE** - The wiper is for imparting antibacterial property (disinfecting and antifungal property). The antibacterial property lasts for a long time. In an example a 200mm x 200mm non-woven fabric (cotton 100 wt %) was folded and 60 of such folded fabric were piled to provide a base material. Silver zeolite (AJ-10N, produced by KK Shinanenzeomic) was dispersed in purified water in 0.5 wt. % and the dispersion was ultrasonicated for 2 mins. Chitosan/collagen (preliminary modified with palm oil fatty acid) was added and stirred in 0.5wt % and then the dispersion was subjected to ultrasonic wave treatment for 2 mins. The base material was immersed in thus obtained dispersion soln. (the weight of the soln. was 3.5 times that of the cloth) to provide a wet wiper which was wrapped immediately with a gas-tight sheet.

## c) Internet (Hier ESPACENET)

**Titel** ANTIBACTERIAL WIPER  
**Patent** JP8196461 Publication date: 1996-08-06  
**Anm.** NAKAMURA KENJI  
**Prior.** JP19950027390 19950123  
**IPC:** A47K7/00 ; A47K7/00 ; A01N59/16 ; A47L13/17 ; A61L2/16

Equiv. -

Abstr. **PURPOSE:** To keep an antiseptic property effective on the wiped part and an antibacterial property preventing mold for a long time, by impregnating the base of a wiper with silver based inorganic antibacterial fine particles, using modified chitosan collagen modified with fatty acid, as a stable homogeneous dispersion for water.

**CONSTITUTION:** An ion-exchange silver based inorganic compound, such as silver zeolite, silver phosphoric acid zirconium, silver apatite and so on, is used as silver based inorganic antibacterial chemicals. To disperse the inorganic antibacterial chemicals stably in water dispersion, a wiper, whose base is impregnated with a water dispersed liquid including a modified fusible chitosan collagen of 0.05-5% by weight produced by modifying chitosan and collagen with fatty acid, should be used for a human being. Another wiper, whose base includes silver inorganic antibacterial chemicals using a mixed liquid including protective colloid of more than 0.05% by weight, a detergent of more than 0.05% by weight, and ethylene glycol of more than 0.1% by weight in addition to the modified chitosan collagen a dispersing stabilizer, should be used as an objective wiper.

- 3 -